

## SEQUENCE LISTING

## (1) GENERAL INFORMATION:

- (i) APPLICANT: Flowman, Gregory  
Mossie, Kevin
- (ii) TITLE OF INVENTION: DIAGNOSIS AND TREATMENT OF AUR-1  
AND/OR AUR-2 RELATED DISORDERS
- (iii) NUMBER OF SEQUENCES: 39
- (iv) CORRESPONDENCE ADDRESS:
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Suite 4700  
(C) CITY: Los Angeles  
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(E) COUNTRY: U.S.A.  
(F) ZIP: 90071-2066
- (v) COMPUTER READABLE FORM:
- (A) MEDIUM TYPE: 3.5" Diskette, 1.44 Mb  
storage  
(B) COMPUTER: IBM Compatible  
(C) OPERATING SYSTEM: IBM P.C. DOS 5.0  
(D) SOFTWARE: FastSEQ for Windows 2.0
- (vi) CURRENT APPLICATION DATA:
- (A) APPLICATION NUMBER: 09/012,135  
(B) FILING DATE: January 22, 1998  
(C) CLASSIFICATION:
- (vii) PRIOR APPLICATION DATA:
- (A) APPLICATION NUMBER: 09/005,268  
(B) FILING DATE: January 9, 1998

(A) APPLICATION NUMBER: 08/755,728  
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(A) APPLICATION NUMBER: 60/023,943  
 (B) FILING DATE: August 14, 1996

(A) APPLICATION NUMBER: 60/008,809  
 (B) FILING DATE: December 18, 1995

## (viii) ATTORNEY/AGENT INFORMATION:

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 (C) REFERENCE/DOCKET NUMBER: 231/282

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## (2) INFORMATION FOR SEQ ID NO: 1:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1244 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

CGGGAGAGTA	GCACTGCCCT	GGACCCCAGC	TCTCCTCCCC	CTTCTCTCT	AAGGATGGCC	60
CAGAAGGAGA	ACTCTACCC	CTGGCCCTAC	GGCCGACAGA	CGGCTCCATC	TGGCTGAGC	120
ACCCCTGCCCC	AGCGAGTCCT	CCGGAAGAG	CCTGTCAACC	CATCTGCACT	TGTCCTCATG	180

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AGCCGCTCCA	ATGTCCAGCC	CACAGCTGCC	CCTGGCCAGA	AGGTGATGGA	GAATAGCAGT	240
GGGACACCCG	ACATCTTAAC	GGGCACTTC	ACAATTGATG	ACTTTGAGAT	TGGGCGTCCT	300
CTGGGCAAAAG	GCAGATTGG	AAACGTGTAC	TTGGCTCGGG	AGAAGAAAAG	CCATTTCATC	360
GTGGCGCTCA	AGGTCCTCTT	CAAGTCCCAG	ATAGAGAAGG	AGGGCGTGGA	GCATCAGCTG	420
CGCAGAGAGA	TCGAAATCCA	GGCCACCTG	CACCATCCCA	ACATCCTGCG	TCTCTACAAC	480
TATTTTTATG	ACCGGAGGAG	GATCTACTTG	ATTCTAGAGT	ATGCCCCCGG	CGGGGAGCTC	540
TACAAGGAGC	TGCAGAAGAG	CTGCACATT	GACGAGCAGC	GAACAGCCAC	GATCATGGAG	600
GAGTTGGCAG	ATGCTCTAAT	GTACTGCCAT	GGGAAGAAGG	TGATTACAG	AGACATAAAG	660
CCAGAAAATC	TGCTCTTAGG	GCTCAGGGA	GAGCTGAAGA	TTGCTGACTT	CGGCTGGTCT	720
GTGCATGCGC	CCTCCCTGAG	GAGGAAGACA	ATGTGTGGCA	CCCTGGACTA	CCTGCCCCCA	780
GAGATGATTG	AGGGGCGCAT	GCACATGAG	AAGGTGGATC	TGTGGTGCAT	TGGAGTGCTT	840
TGCTATGAGC	TGCTGTGGG	GAACCCACCC	TTGAGAGTG	CATCACACAA	CGAGACCTAT	900
CGCGGCATCG	TCAAGGTGGA	CCTAAAGTTC	CCGCTTCTG	TGCCCCAGGG	AGCCCAGGAC	960
CTCATCTCCA	AACTGCTCAG	GCATAACCCC	TCGGAACGGC	TGCCCCCTGG	CCAGGTCTCA	1020
GCCCACCCCT	GGGTCGGGG	CAACTCTCGG	AGGGTGCTGC	CTCCCTCTGC	CCTTCAATCT	1080
GTCGCCGTGAT	GGTCCCTGTC	ATTCACTCGG	GTGCGTGTGT	TTGTATGTCT	GTGTATGTAT	1140
AGGGGAAAGA	AGGGATCCCT	AACGTGTCCC	TTATCTGTTT	TCTACCTCCT	CCTTTGTTTA	1200
ATAAAGGCTG	AAGCTTTTGT	TAAAAAACA	AAAAAANA	AAAA		1244

## (2) INFORMATION FOR SEQ ID NO: 2:

## (i) SEQUENCE CHARACTERISTICS:

(A)	LENGTH:	2198 base pairs
(B)	TYPE:	nucleic acid
(C)	STRANDEDNESS:	single
(D)	TOPOLOGY:	linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

GGGATATCTC	AGTGGCGGAC	GAGGACGGCG	GGGACAAGGG	GCGGCTGGTC	GGAGTGGCGG	60
ACGTCAAGTC	CCCTGTCGGT	TCCTCCGTCC	CTGAGTGTCC	TTGGCGCTGC	CTTGTGCCCG	120
CCCAGCGCCT	TTGCATCCGC	TCCTGGGCAC	CGAGGCGCCC	TGTAGGATAC	TGCTTGTTC	180
TTATTACAGC	TAGAGGCATC	ATGGACCGAT	CTAAGAAAAA	CTGCATTTC	GGACCTGTTC	240
AGGCTACAGC	TCCAGTTGGA	GGTCCAAAAC	GTGTCTCTGT	GACTCAGCAA	TTTCCTGTCT	300
AGAATCCATT	ACCTGTAAAT	AGTGGCCAGG	CTCAGCGGGT	CTTGTGTCTT	TCAAAATCTT	360
CCCAGCGCGT	TCCTTTGCAA	GCACAAAAGC	TTGTCTCCAG	TCACAGCCCG	GTCAGAAATC	420
AGAAGCAGAA	GCAATTGCAG	GCAACCACTG	TACCTCATCC	TGCTCCAGG	CCACTGAATA	480
ACACCCAAAA	GAGCAAGCAG	CCCCTGCCAT	CGGCACCTGA	AAATAATCCT	GAGGAGGAAC	540
TGGCATCAAA	ACAGAAAAAT	GAAGAATCAA	AAAAGAGGCA	GTGGGCTTTG	GAGACTTTTG	600
AAATTTGGTC	CCCTCTGGGT	AAAGGAAAGT	TTGTATATGT	TTATTGGGCA	AGAGAAAAAGC	660
AAAGCAAGTT	TATTCTGGCT	CTTAAAGTGT	TATTTAAAGC	TCAGCTGGAG	AAAGCCGGAG	720
TGGAGCATGA	GCTCAGAGA	GAAAGTAGAA	TACAGTCCCA	CCCTTGCCAT	CCTAATATTC	780
TTAGACTGTA	TGGTTATTTC	CATGATGCTA	CCAGAGTCTA	CCTAATCTG	GAATATGCAC	840

CACTTGGAAC AGTTTATAGA GAACTTCAGA AACTTTCAA GTTTGATGAG CAGAGAAGCTG 900  
 CTACTTATAT AACAGAATG GCAAAATGCCC TGTCTTACTG TCATTTCGAAG AGAGTTTATTC 960  
 ATAGAGACAT TAAGCCAGAG AACTTACTTC TTGGATCAGC TGGAGAGCTT AAAATTGCAG 1020  
 ATTTTGGGTG GTCAGTACAT GCTCCATCTT CCAGGAGGAC CACTCTCTGT GGCACCCCTGG 1080  
 ACTACCTGCC CCCTGAAATG ATTGAAGGTC GGATGCATGA TGAGAAGGTG GATCTCTGGA 1140  
 GCCTTGGAGT TCCTTGCAT GAAATTTTAG TTGGGAAGCC TCCTTTTGAG GCAAAACACAT 1200  
 ACCAAGAGAC CTACAAAAGA ATATCACGGG TTGAATTCAC ATTCCTGAC TTTGTAACAG 1260  
 AGGGAGCCAG GGACCTCAT TCAAGACTGT TGAAGCATAA TCCCAGCCAG AGGCCAATGC 1320  
 TCAGAGAAGT ACTTGAACAC CCCTGGATCA CAGCAAAATC ATCAAACCA TCAAAATTGCC 1380  
 AAAACAAGA ATCAGCTAGC AAACAGTCTT AGGAATCGTG CAGGGGGAGA AATCCTTGAG 1440  
 CCAGGGCTGC CATATAACCT GACAGGAACA TGCTACTGAA GTTTATTTTA CCATTGACTG 1500  
 CTGCCCTCAA TCTAGAACGC TACACAAAGAA ATATTTGTTT TACTCAGCAG GTGTGCCTTA 1560  
 ACCTCCCTAT TCAGAAAGCT CCACATCAAT AAACATGACA CTCTGAAGTG AAAGTAGCCA 1620  
 CGAGAATTGT GCTACTTATA CTGGTTCATA ATCTGGAGGC AAGGTTTCGAC TGCAGCCGCC 1680  
 CCGTCAGCCT GTGCTAGGCA TGGTGTCTTC ACAGGAGGCA AATCCAGAGC CTGGCTGTGG 1740  
 GGAAAGTGAC CACTCTGCCC TGACCCCGAT CAGTTAAGGA GCTGTGCAAT AACCTTCTTA 1800  
 GTACCTGAGT GAGTGTGTAA CTTATTGGGT TGGCGAAGCC TGGTAAAGCT GTTGGAAATGA 1860  
 GTATGTGATT CTTTTAAGT ATGAAAATAA AGATATATGT ACAGACTTGT ATTTTCTC 1920  
 TGGTGGCATT CCTTTAGGAA TGCTGTGTGT CTGTCCGGCA CCCCGGTAGG CCTGATTGGG 1980  
 TTTTGTCTC TCCTTAACCA CTTATCTCCC ATATGAGAGT GTGAAAATA GGAACACGTG 2040  
 CTCTACCTCC ATTTAGGGAT TTGCTTGGGA TACAGAAGAG GCCATGTGTC TCAGAGCTGT 2100  
 TAAGGGCTTA TTTTTTAA ACATTGGAGT CATAGCATGT GTGTAAACTT TAAATATGCA 2160  
 AATAATTAAG TATCTATGTC AAAAAAATA AAAAAA 2198

## (2) INFORMATION FOR SEQ ID NO: 3:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 344 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

Met Ala Gln Lys Glu Asn Ser Tyr Pro Trp Pro Tyr Gly Arg Gln Thr  
 1 5 10 15

Ala Pro Ser Gly Leu Ser Thr Leu Pro Gln Arg Val Leu Arg Lys Glu  
 20 25 30

Pro Val Thr Pro Ser Ala Leu Val Leu Met Ser Arg Ser Asn Val Gln  
 35 40 45  
 Pro Thr Ala Ala Pro Gly Gln Lys Val Met Glu Asn Ser Ser Gly Thr  
 50 55 60  
 Pro Asp Ile Leu Thr Arg His Phe Thr Ile Asp Phe Glu Ile Gly  
 65 70 75 80  
 Arg Pro Leu Gly Lys Gly Lys Phe Gly Asn Val Tyr Leu Ala Arg Glu  
 85 90 95  
 Lys Lys Ser His Phe Ile Val Ala Leu Lys Val Leu Phe Lys Ser Gln  
 100 105 110  
 Ile Glu Lys Glu Gly Val Glu His Gln Leu Arg Arg Glu Ile Glu Ile  
 115 120 125  
 Gln Ala His Leu His His Pro Asn Ile Leu Arg Leu Tyr Asn Tyr Phe  
 130 135 140  
 Tyr Asp Arg Arg Arg Ile Tyr Leu Ile Leu Glu Tyr Ala Pro Arg Gly  
 145 150 155 160  
 Glu Leu Tyr Lys Glu Leu Gln Lys Ser Cys Thr Phe Asp Glu Gln Arg  
 165 170 175  
 Thr Ala Thr Ile Met Glu Glu Leu Ala Asp Ala Leu Met Tyr Cys His  
 180 185 190  
 Gly Lys Lys Val Ile His Arg Asp Ile Lys Pro Glu Asn Leu Leu Leu  
 195 200 205  
 Gly Leu Lys Gly Glu Leu Lys Ile Ala Asp Phe Gly Trp Ser Val His  
 210 215 220  
 Ala Pro Ser Leu Arg Arg Lys Thr Met Cys Gly Thr Leu Asp Tyr Leu  
 225 230 235 240  
 Pro Pro Glu Met Ile Glu Gly Arg Met His Asn Glu Lys Val Asp Leu  
 245 250 255  
 Trp Cys Ile Gly Val Leu Cys Tyr Glu Leu Leu Val Gly Asn Pro Pro  
 260 265 270  
 Phe Glu Ser Ala Ser His Asn Glu Thr Tyr Arg Arg Ile Val Lys Val  
 275 280 285  
 Asp Leu Lys Phe Pro Ala Ser Val Pro Thr Gly Ala Gln Asp Leu Ile  
 290 295 300

Ser Lys Leu Leu Arg His Asn Pro Ser Glu Arg Leu Pro Leu Ala Gln  
 305 310 315 320

Val Ser Ala His Pro Trp Val Arg Ala Asn Ser Arg Arg Val Leu Pro  
 325 330 335

Pro Ser Ala Leu Gln Ser Val Ala  
 340

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 403 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

Met Asp Arg Ser Lys Glu Asn Cys Ile Ser Gly Pro Val Lys Ala Thr  
 1 5 10 15

Ala Pro Val Gly Gly Pro Lys Arg Val Leu Val Thr Gln Gln Phe Pro  
 20 25 30

Cys Gln Asn Pro Leu Pro Val Asn Ser Gly Gln Ala Gln Arg Val Leu  
 35 40 45

Cys Pro Ser Asn Ser Ser Gln Arg Val Pro Leu Gln Ala Gln Lys Leu  
 50 55 60

Val Ser Ser His Lys Pro Val Gln Asn Gln Lys Gln Lys Gln Leu Gln  
 65 70 75 80

Ala Thr Ser Val Pro His Pro Val Ser Arg Pro Leu Asn Asn Thr Gln  
 85 90 95

Lys Ser Lys Gln Pro Leu Pro Ser Ala Pro Glu Asn Asn Pro Glu Glu  
 100 105 110

Glu Leu Ala Ser Lys Gln Lys Asn Glu Glu Ser Lys Lys Arg Gln Trp  
 115 120 125  
 Ala Leu Glu Asp Phe Glu Ile Gly Arg Pro Leu Gly Lys Gly Lys Phe  
 130 135 140  
 Gly Asn Val Tyr Leu Ala Arg Glu Lys Gln Ser Lys Phe Ile Leu Ala  
 145 150 155 160  
 Leu Lys Val Leu Phe Lys Ala Gln Leu Glu Lys Ala Gly Val Glu His  
 165 170 175  
 Gln Leu Arg Arg Glu Val Glu Ile Gln Ser His Leu Arg His Pro Asn  
 180 185 190  
 Ile Leu Arg Leu Tyr Gly Tyr Phe His Asp Ala Thr Arg Val Tyr Leu  
 195 200 205  
 Ile Leu Glu Tyr Ala Pro Leu Gly Thr Val Tyr Arg Glu Leu Gln Lys  
 210 215 220  
 Leu Ser Lys Phe Asp Glu Gln Arg Thr Ala Thr Tyr Ile Thr Glu Leu  
 225 230 235 240  
 Ala Asn Ala Leu Ser Tyr Cys His Ser Lys Arg Val Ile His Arg Asp  
 245 250 255  
 Ile Lys Pro Glu Asn Leu Leu Leu Gly Ser Ala Gly Glu Leu Lys Ile  
 260 265 270  
 Ala Asp Phe Gly Trp Ser Val His Ala Pro Ser Ser Arg Arg Thr Thr  
 275 280 285  
 Leu Cys Gly Thr Leu Asp Tyr Leu Pro Pro Glu Met Ile Glu Gly Arg  
 290 295 300  
 Met His Asp Glu Lys Val Asp Leu Trp Ser Leu Gly Val Leu Cys Tyr  
 305 310 315 320  
 Glu Phe Leu Val Gly Lys Pro Pro Phe Glu Ala Asn Thr Tyr Gln Glu  
 325 330 335  
 Thr Tyr Lys Arg Ile Ser Arg Val Glu Phe Thr Phe Pro Asp Phe Val  
 340 345 350  
 Thr Glu Gly Ala Arg Asp Leu Ile Ser Arg Leu Leu Lys His Asn Pro  
 355 360 365  
 Ser Gln Arg Pro Met Leu Arg Glu Val Leu Glu His Pro Trp Ile Thr  
 370 375 380

Ala Asn Ser Ser Lys Pro Ser Asn Cys Gln Asn Lys Glu Ser Ala Ser  
 385 390 395 400

Lys Gln Ser

(2) INFORMATION FOR SEQ ID NO: 5:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

Glu Asn Ser Tyr Pro Trp Pro Tyr Gly Arg Gln  
 1 5 10

(2) INFORMATION FOR SEQ ID NO: 6:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

Cys Ile Ser Gly Pro  
 1 5



## (2) INFORMATION FOR SEQ ID NO: 7:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 4 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

Gln Phe Pro Gln

1

## (2) INFORMATION FOR SEQ ID NO: 8:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

Val Asn Ser Gly Gln

1

5

## (2) INFORMATION FOR SEQ ID NO: 9:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

Arg Lys Glu Pro Val Thr Pro Ser Ala Leu Val  
 1                    5                    10

## (2) INFORMATION FOR SEQ ID NO: 10:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:

Leu Met Ser Arg Ser Asn Val Gln Pro Thr Ala Ala Pro  
 1                    5                    10

## (2) INFORMATION FOR SEQ ID NO: 11:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 16 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

Val Gln Asn Gln Lys Gln Lys Gln Leu Gln Ala Thr Ser Val Pro His  
 1                    5                    10                    15

## (2) INFORMATION FOR SEQ ID NO: 12:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

Pro Val Ser Arg Pro Leu Asn Asn Thr Gln Lys  
 1 5 10

## (2) INFORMATION FOR SEQ ID NO: 13:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 10 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

Val Met Glu Asn Ser Ser Gly Thr Pro Asp  
 1 5 10

## (2) INFORMATION FOR SEQ ID NO: 14:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

Ile Leu Thr Arg His Phe Thr Ile Asp  
1 5

(2) INFORMATION FOR SEQ ID NO: 15:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:

Ser Lys Gln Pro Leu Pro Ser Ala Pro Glu Asn Asn Pro Glu Glu Gln  
1 5 10 15

Leu Ala Ser Lys Gln Lys  
20

(2) INFORMATION FOR SEQ ID NO: 16:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 23 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ix) FEATURE:

(D) OTHER INFORMATION: The letter "R" stands for A or G.  
The letter "Y" stands for C or T.  
The letter "N" stands for A, C, G or T.

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

GARTTYGGNG ARGNTTTYT NGC

23

## (2) INFORMATION FOR SEQ ID NO: 17:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	23 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

## (ix) FEATURE:

(D) OTHER INFORMATION: The letter "N" stands for A, C, G or T.  
The letter "R" stands for A or G.

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

AGNACNCCRA ANGCCCACAC RTC

23

## (2) INFORMATION FOR SEQ ID NO: 18:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	8 amino acids
(B) TYPE:	amino acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

## (ii) MOLECULE TYPE: Peptide

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

Glu Phe Gly Glu Val Phe Leu Ala  
1 5

## (2) INFORMATION FOR SEQ ID NO: 19:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	25 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:

TTTGGCTCGG GAGAAGAAAA GCCAT

25

## (2) INFORMATION FOR SEQ ID NO: 20:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 24 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

CAATCATCTC TGGGGGCAGG TAGT

24

## (2) INFORMATION FOR SEQ ID NO: 21:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 10 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: Peptide

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Ser  
 1 5 10

## (2) INFORMATION FOR SEQ ID NO: 22:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: Peptide

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

Ser Ala Pro Glu Asn Asn Pro Glu Glu Gln Leu Ala Ser Lys  
 1 5 10

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## (2) INFORMATION FOR SEQ ID NO: 23:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

Arg Pro Leu Asn Asn Thr Gln Lys Ser Lys Gln Pro Leu  
 1 5 10

## (2) INFORMATION FOR SEQ ID NO: 24:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

Met Ala Gln Lys Glu Asn Ser Tyr Pro Trp Pro Tyr Gly  
 1 5 10

## (2) INFORMATION FOR SEQ ID NO: 25:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

Pro Gly Gln Lys Val Met Glu Asn Ser Ser Gly Thr Pro  
1 5 10

(2) INFORMATION FOR SEQ ID NO: 26:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 8 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(ix) FEATURE:

(D) OTHER INFORMATION: "Xaa" in positions 2, 4, 5 and 7 stands for an unidentified amino acid.

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

Gly Xaa Gly Xaa Xaa Gly Xaa Val  
1 5

(2) INFORMATION FOR SEQ ID NO: 27:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

Asp Val Trp Ser Tyr Phe Gly Ile Val  
1 5



## (2) INFORMATION FOR SEQ ID NO: 28:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

## (ix) FEATURE:

(D) OTHER INFORMATION: "Xaa" in positions 2 and 6 stands  
 for an unidentified amino acid.

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 28:

Asp Xaa Trp Ala Ser Xaa Gly Ile Val  
 1 5

## (2) INFORMATION FOR SEQ ID NO: 29:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 8 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

## (ix) FEATURE:

(D) OTHER INFORMATION: "Xaa" in position 4 represents  
 either Asp or Ser.

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

Asp Val Trp Xaa Phe Gly Val Leu  
 1 5

## (2) INFORMATION FOR SEQ ID NO: 30:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	21 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

CAGGGCAGAG TGTCACCTT C

21

## (2) INFORMATION FOR SEQ ID NO: 31:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	21 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

CGTCCGCCAC TCCGACCAGC C

21

## (2) INFORMATION FOR SEQ ID NO: 32:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	21 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

TGCAGTCGAA CCTTGCCTCC A

21

## (2) INFORMATION FOR SEQ ID NO: 33:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 8 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

Asp Val Trp Ala Phe Gly Val Leu

1

## (2) INFORMATION FOR SEQ ID NO: 34:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

CGCCTTGCA TCCGCTCCTG

20

## (2) INFORMATION FOR SEQ ID NO: 35:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

GATTGCTCCT CTGTGAAGAC

20

## (2) INFORMATION FOR SEQ ID NO: 36:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	21 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

ATGCCTCCGG AAAGAGCCTG T

21

## (2) INFORMATION FOR SEQ ID NO: 37:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	22 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 37:

GTGTCCTCCACT GCTATTCTCC AT

22

## (2) INFORMATION FOR SEQ ID NO: 38:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	21 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 38:

CAGGGCTGCC ATATAACCTG A

21

## (2) INFORMATION FOR SEQ ID NO: 39:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	20 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

CTAGCACAGG CTGACGGGGC

20

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